

REMARKS

Applicant respectfully requests reconsideration and allowance of the present application based on the following remarks. Claims 1, 3-6, 8 and 17-20 are pending in the application.

Objections to the Drawings

The Final Office Action objected to the drawings under 37 C.F.R. 1.83(a) for failing to show every feature of the invention specified in the claims. Applicants respectfully disagree with this objection.

The Final Office Action states that the “timing diagrams of the figures do not show the recited method steps of the claims.” (Action at 2.) However, Applicants respectfully submit that those skilled in the art will be able to understand the recited method steps from the drawings as originally filed. Moreover, just because timing diagrams are used to illustrate the claimed methodology does not mean that the claims are not shown in the drawings. The Final Office Action provides no authority for the proposition that timing drawings are insufficient to illustrate a claimed method.

For example, independent claim 1 requires: “determining, for the spread spectrum signal, partial accumulations that are repeated in a correlation process of the spread spectrum signal using a data slice of the spread spectrum signal made up of in phase (I) signal data and quadrature phase (Q) signal data correlated with pseudorandom codes, wherein the data slice of the spread spectrum signal includes a plurality of data bytes and a plurality of pseudorandom code bytes.” An example implementation of the claimed correlation process, including the spread spectrum signal 202, data slice and pseudorandom codes 104 is shown and described in connection with Figure 5. An example of determining repeating partial accumulations is shown in Figure 6.

Independent claim 1 also requires: “removing at least a portion of the partial accumulations that are repeated in the correlation process of the I signal and the Q signal data with the pseudorandom codes and results in remaining partial accumulations in the correlation process; and storing the remaining partial accumulations in at least one table.” An example table formed by the claimed method is illustrated in Figure 7.

Independent claim 1 further requires: “using the data slice and the at least one table during the correlation process to determine when a locally generated pseudorandom code and the incoming pseudorandom code received at the GPS receiver are correlated, wherein the at least one table is constructed for one of the terms of the spread spectrum signal.” An example correlation process using a data slice is illustrated in Figure 5, and an example table used during the correlation process is illustrated in Figure 7.

The Final Office Action also objected to Figure 4 for lacking a “Prior Art” legend. Such a legend has been added, thereby obviating the objection.

For at least the foregoing reasons, the objections to the drawings should be withdrawn.

Claim Rejections under 35 USC § 103

Claims 1, 3-6, 8 and 17-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,370,208 to Kuo (“Kuo”) in view of U.S. Patent No. 6,285,655 to Lundby et al. (“Lundby”) and further in view of U.S. Patent No. 6,650,879 to Underbrink (“Underbrink”). For reasons set forth more fully below, these rejections are respectfully traversed.

Independent Claim 1

Applicants restate and incorporate herein by reference their previous remarks against the pending rejections. For convenience, Applicants’ present response will focus as much as possible on new issues raised in the Final Office Action.

Applicants’ previous response demonstrated that neither Kuo nor any of the other cited references taught or suggested “storing the remaining partial accumulations in at least one table” nor “using the data slice and the at least one table during the correlation process to determine when a locally generated pseudorandom code and the incoming pseudorandom code received at the GPS receiver are correlated.”

The Final Office Action correctly fails to point to any disclosure or suggestion in the prior art of a table of partial accumulations that is stored and used during a correlation process as required by independent claim 1.

Applicants’ previous response further demonstrated that Kuo merely discloses a method for reducing the complexity of correlators by first performing a partial sum of an input sequence

values and then performing mathematical operations on those sums. (Kuo, 1: 10-13 and 4:52-56) Accordingly, it does not teach or suggest “*determining, for the spread spectrum signal, partial accumulations that are repeated in a correlation process*” of the signal correlated with pseudorandom codes as required by independent claim 1.

The Final Office Action states that “Kuo discloses determining for the spread spectrum signals, codes that are repeated in the correlation process (column 4, lines 21-26). These codes are the partial accumulations.” (Action at 4, emphasis added) Applicants respectfully disagree with this position. The claim clearly requires that the partial accumulations are repeated in a correlation process of signal data correlated with pseudorandom codes. So the codes themselves cannot be considered the claimed partial accumulations. This interpretation would render the claim nonsensical, and so it is unreasonable. Moreover, those skilled in the art would not consider accumulations from a correlation process to be the same as the codes used in the correlation process.

Accordingly, for at least these reasons, independent claim 1 as amended distinguishes over the combination of Kuo, Lunby, and Underbrink.

Claims 3-6, 8, and 17-19 depend from independent claim 1, as amended. Accordingly, Applicant respectfully submits that claims 3-6, 8 and 17-19 distinguish over the combination of Kuo, Lunby, and Underbrink for the same reasons set forth above with respect to independent claim 1.

Dependent Claims 18-20

Applicants’ previous response added new claims 18-20. These claims depend from claim 1 and set forth additional subject matter that is not taught or suggested by the cited prior art. More particularly, claims 18-20 set forth:

18. (Previously Presented) The method of claim 1, wherein the data slice is used to retrieve a first partial accumulation value from the at least one table.

19. (Previously Presented) The method of claim 18, wherein a plurality of following data slices are used to retrieve a plurality of subsequent partial accumulation values during a predetermined time period from the at least one

table and the subsequent partial accumulation values are added to the first partial accumulation value to produce an accumulator output value.

20. (Previously Presented) The method of claim 18, wherein the locally generated pseudorandom code and the incoming pseudorandom code are correlated when the accumulator output value is at a predetermined maximum value.

The Final Office Action correctly fails to identify any teaching or suggestion in the cited prior art that corresponds to this clearly defined subject matter.

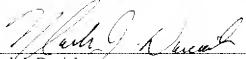
For at least these reasons, all claims 1, 3-6, 8 and 17-19 patentably define over the cited prior art and the § 103 rejections thereof should be withdrawn.

Conclusion

All objections and rejections having been addressed, it is believed that the claims are in condition for allowance, and Notice to that effect is earnestly solicited. If any issues remain which the Examiner feels may be resolved through a telephone interview, s/he is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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